

1/17

&lt;110&gt; KANEKA CORPORATION

<120> TRANSFORMANT AND METHOD OF PRODUCING POLYESTERS  
WITH IT

&lt;130&gt; T-618

&lt;160&gt; 21

&lt;210&gt; 1

&lt;211&gt; 1785

&lt;212&gt; DNA

&lt;213&gt; Aeromonas caviae

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; 1..1785

&lt;400&gt; 1

atgagccaac	catcttatgg	cccgctgttc	gaggccctgg	cccactacaa	tgacaagctg	60
ctggccatgg	ccaaggccca	gacagagcgc	accgcccagg	cgctgctgca	gaccaatctg	120
gacgatctgg	gccaggtgct	ggagcagggc	agccagcaac	cctggcagct	gatccaggcc	180
cagatgaact	ggtggcagga	tcagctcaag	ctgatgcagc	acaccctgct	caaaagcgca	240
ggccagccga	gcgagccggt	gatcaccccg	gagcgcagcg	atcgccgctt	caaggccgag	300
gcctggagcg	aacaacccat	ctatgactac	ctcaagcagt	cctacctgct	caccgccagg	360
cacctgctgg	cctcggtgga	tgccctggag	ggcgtccccc	agaagagccg	ggagcggctg	420
cgtttcttca	cccgccagta	cgtcaacgcc	atggccccca	gcaacttcct	ggccaccaac	480
cccgagctgc	tcaagctgac	cctggagtcc	gacggccaga	acctgggtgcg	cggactggcc	540
ctcttggccg	aggatctgga	gcgcagcgcc	gatcagctca	acatccgcct	gaccgacgaa	600

2/17

tccgccttcg agctcgggcg ggatctggcc ctgaccccg gccgggtggt gcagcgcacc 660  
gagctctatg agctcattca gtacagcccg actaccgaga cgggtgggcaa gacacctgtg 720  
ctgatagtgc cgcccttcac caacaagtac tacatcatgg acatgcggcc ccagaactcc 780  
ctggctgcct ggctggtcgc ccagggccag acggtattca tgatctcctg gcgcaacccg 840  
ggcgtggccc aggcccaaat cgatctcgac gactacgtgg tggatggcgt catcgccgcc 900  
ctggacggcg tggaggcggc caccggcgag cgggaggtgc acggcatcgg ctactgcac 960  
ggcggcaccg ccctgtcgt cgccatgggc tggctggcgg cgcgccgcca gaagcagcgg 1020  
gtgcgcaccg ccacctgtt cactaccctg ctggacttct cccagcccg ggagcttggc 1080  
atcttcatcc acgagcccat catagcggcg ctgagggcg aaaatgaggc caagggcatc 1140  
atggacgggc gccagctggc ggtctccttc agcctgctgc gggagaacag cctctactgg 1200  
aactactaca tcgacagcta cctcaagggt cagagcccg tggccttcga tctgctgcac 1260  
tggaacagcg acagcacaa tgtggcgggc aagaccaca acagcctgct gcgccgtctc 1320  
tacctggaga accagctggt gaagggggag ctcaagatcc gcaacaccg catcgatctc 1380  
ggcaaggtga agaccctgt gctgctggtg tcggcggtgg acgatcacat cgccctctgg 1440  
cagggcacct ggcagggcat gaagctgtt ggcggggagc agcgcttct cctggcggag 1500  
tccggccaca tcgccgcat catcaaccg ccggccgcca acaagtacgg cttctggcac 1560  
aacggggccg aggccgagag cccggagagc tggctggcag gggcgacgca ccaggcggc 1620  
tcctggtggc ccgagatgat gggctttatc cagaaccgtg acgaagggtc agagcccgtc 1680  
cccgcgcggg tcccggagga agggctggcc cccgccccg gccactatgt caaggtgcgg 1740  
ctcaaccg tgttgcctg cccaacagag gaggacgcc catga 1785

<210> 2

<211> 405

<212> DNA

<213> *Aeromonas caviae*

<220>

&lt;221&gt; CDS

&lt;222&gt; 1..402

&lt;400&gt; 2

```

atgagcgcac aatccctgga agtaggccag aaggcccgtc tcagcaagcg gttcggggcg   60
gcggaggtag ccgccttcgc cgcgctctcg gaggacttca accccctgca cctggacccg   120
gccttcgccg ccaccacggc gttcgagcgg cccatagtcc acggcatgct gctcgccagc   180
ctcttctccg ggctgctggg ccagcagttg ccgggcaagg ggagcatcta tctgggtcaa   240
agcctcagct tcaagctgcc ggtctttgtc ggggacgagg tgacggccga ggtggaggtg   300
accgcccttc gcgaggacaa gcccatcgcc accctgacca cccgcatctt cacccaaggc   360
ggcgccctcg ccgtgacggg ggaagccgtg gtcaagctgc cttaa                       405

```

&lt;210&gt;3

&lt;211&gt;1785

&lt;212&gt;DNA

&lt;213&gt;Artificial Sequence

&lt;220&gt;

&lt;221&gt;CDS

&lt;222&gt;1..1785

&lt;400&gt;3

```

atgtctcaac catcttatgg tccattgttc gaagctttgg ctcatataaa tgataaattg   60
ttggctatgg ctaaagctca aaccgaaaga actgctcaag ccttggtgca aactaacttg   120
gatgatttgg gtcaagtttt ggaacaaggt tctcaacaac catggcaatt gattcaagct   180
caaatgaatt ggtggcaaga tcaattaaaa ttgatgcaac acactttgtt aaaatctgct   240
ggtcaaccat ctgaaccagt tattactcca gaaagatctg atagaagatt taaagctgaa   300
gcttgggtctg aacaaccaat ttatgattac ttaaaacaat cctatttgtt aactgctaga   360
catttgttgg cttctgttga tgctttggaa ggtgtccac aaaaatctag agaaagattg   420

```

```

agattcttta  ctagacaata  cgtcaacgct  atggctccat  ctaatttctt  ggctactaac  480
ccagaattgt  taaaattgac  ttggaatcc  gatgggtcaa  atttggttag  aggtttggct  540
ttattggctg  aagatttgga  aagatctgct  gatcaattaa  acattagatt  gactgatgaa  600
tccgcttttg  aattaggtag  agatttggct  ttgactccag  gtagagttgt  tcaaagaact  660
gaattatatg  aattaattca  atactctcca  actactgaaa  ccgttggtaa  aaccccgatt  720
ttgatcggtc  caccattcat  taataaatat  tacattatgg  atatgagacc  acaaaactcc  780
ttggtcgctt  ggttggtcgc  tcaagggtcaa  accgttttca  tgatttcctg  gagaaacca  840
ggtgttgctc  aagctcaaat  tgatttagat  gattatgttg  ttgatgggtg  cattgctgct  900
ttggatgggtg  ttgaagccgc  tactgggtgaa  agagaagttc  acggtattgg  ttactgtatt  960
ggtgggtaccg  ctttgtcttt  agctatgggt  tgggtggccg  ccagaagaca  aaaacaaaga  1020
gttagaactg  ctactttgtt  tactactttg  ttggatttct  cccaaccagg  tgaattgggt  1080
atttttattc  atgaaccaat  tatcgccgcc  ttagaagccc  aaaatgaagc  taaagggtatt  1140
atggatggta  gacaattggc  cgtctccttc  tctttgttga  gagaaaactc  tttatattgg  1200
aattactata  ttgattctta  cttaaaggt  caatctccag  ttgcttttga  ttgttgacac  1260
tggaactctg  attctactaa  tgttgccggt  aaaactcata  actctttgtt  gagaagatta  1320
tatttggaaa  atcaattggt  taaagggtgaa  ttaaaaatta  gaaacactag  aattgattta  1380
ggtaaagtta  aaactccagt  ttgtttggtt  tctgccgttg  atgatcacat  tgctttatgg  1440
caaggtacct  ggcaaggtat  gaaattgttc  ggtgggtgaac  aaagattttt  attggccgaa  1500
tccggtcata  ttgctgggtat  tattaatcca  ccagctgcta  acaaatcgg  tttctggcac  1560
aatggtgctg  aagctgaatc  tccagaatct  tggttggctg  gtgccacca  tcaagggtgt  1620
tcctgggtggc  cagaaatgat  gggttttatt  caaacagag  atgaagggtc  tgaaccagtc  1680
ccagccagag  tcccagaaga  aggtttggct  ccagctccag  gtcactatgt  caaagttaga  1740
ttaaaccag  ttttcgcttg  tccaaccgaa  gaagatgctg  cttaa  1785

```

&lt;210&gt;4

&lt;211&gt;405

&lt;212&gt;DNA

&lt;213&gt;Artificial Sequence

&lt;220&gt;

&lt;221&gt;CDS

&lt;222&gt;1..405

&lt;400&gt; 4

```

atgtctgctc aatccttgga agttgggtcaa aaagctagat tatctaaaag attcgggtgcc    60
gccgaagttg ctgcttttgc tgccttatct gaagatttca acccattgca ctgggatcca    120
gcttttgctg ctactaccgc cttcgaaaga ccaatcgtcc atggtatgtt gttagcttct    180
ttattttccg gtttgttggg tcaacaattg ccaggtaaag gttctattta tttgggtcaa    240
tctttatctt tcaaattgcc agtctttgtc ggtgatgaag ttaccgctga agttgaagtt    300
actgctttga gagaagataa accaattgct actttgacta ctagaatttt cactcaaggt    360
ggtgctttag ctgttaccgg tgaagctgtt gtcaaattgc cataa          405

```

&lt;210&gt; 5

&lt;211&gt; 1036

&lt;212&gt; DNA

<213> *Yarrowia lipolytica*

&lt;220&gt;

&lt;223&gt; promoter ALK3p

&lt;400&gt; 5

```

ctgcagcggc gagaccggtt ctgggccgac tacgacgtgc ctggagggac gctccgggag    60
aatctctttg gacggggcaa gatcttcccc gaccaccctg ccggacagta caagtgggaa    120
gaggggggagt ttcccttgac caagagtgac aagagtgaga acggcaatgg agtcaatgga    180
gatgagcccc ctactaagaa acaaaaaaatc tgaacaagag ccggttttag tacgatacaa    240
gagccggtac gtggacatgc agctgctttt cgaacatgaa gggagcacga cccacgtat    300
cagtattatg caagggacca gaagtggcct cggcaaaaga ttggcctcgg tcaacaaaag    360
gtcatcatat ccgtctccgc atccgtctgt acgtgaatta tggtacttgt atctttactg    420

```

tactggtttg gagctacgtc gccaaactaat gccaacacagt cctgtggtgt gtctataggt 480  
 atgtaataca agtacgagta aatgtattgt actggtgcag cacagtagat gacggagacg 540  
 atgaatcggg caccaccac aaacattgcc tccaaacacc gttatattgt cttactgtcg 600  
 tggctgagac agactcctcg gggccttgta agagggggaa tgtgtgagac agatgccac 660  
 aagtgacat gcattttgtg gggcaggaga aaaaccaatg tttgtggga tagaaccat 720  
 caaatgaatc taaatgaact ctccaaaat gaaccactct cttctccaa tcaaagcct 780  
 gcgaaatgtc ctccgtctgt ttctcgacc cttagccgta cgacgccata ttacgatagc 840  
 ccgccacctt aatgcgttta acttgcattg atgcgtctgc atacagctgc atctgtcata 900  
 tatgcacat ttcccacac aactgaagtt tatatatata tactgtaagg actcctgaag 960  
 tggcacgaac acacctgac acagcaacat tacagtacac tactctgtc gtattttaca 1020  
 atactggacg aaaatg 1036

&lt;210&gt;6

&lt;211&gt;1017

&lt;212&gt;DNA

&lt;213&gt;Candida maltosa

&lt;220&gt;

&lt;223&gt;promoter ALK1p

&lt;400&gt;6

atgcatgaac aggatttaat cccaagaaaa aagtctatct tctattttca caaggaaact 60  
 ggaaaaacct ttttgtttt tgaagtagct ccgtaataac ctgtaaaaaa ataaattttg 120  
 aagatttgac ttgctgatga aaatgctatc agtgtagctc tagacttgat actagactat 180  
 gatggcaaca catggtggtc aacgtgcaag acatcaccca atgagaagac tgctaaccag 240  
 aaaaaaagg ggacaaaaga aaaactcgag agaaaaagtc aaattggtgt aaaattggct 300  
 atttttgga ctttctaact ggggaaatta attgtttaaa attccagttt ttccagagtt 360  
 aagatttcga ccaattattt ttaatccata tgatcttcat cattatcaac ttgtgaaaaa 420  
 taataatcga ggtacgttta atacgagata ttagtctacg gctatgaatg ttggatatac 480

7/1 7

ttcattgacg atcagaagct tgattggta ttcaggtgca tgtgtggata taaacccaac 540  
aaattatcta gcaactgtgc cttccccaca ttggtaaag aaaccctaaa gcaaattaaa 600  
atctggataa ataaatcatt catttcacat ttcccggtta gtataagggtt tttaaattt 660  
ttttttacag tttagccctt tcaattacca aatacggtaa caatgtgctt tgtaacatgc 720  
aggggatatt ctccgttgct gttttctcca catgctttta atgtgtaata aattaaaaaa 780  
attacaaaga aaaaccggca tataagcatc ggagtttaca ttgttaacta actgcaaaat 840  
ggcgatgttt caaatcaaca aaatttaaaa aaaccccaaa aaaaaagtat catataaatt 900  
aaactcaaaa tcctttgat tgcataaaat tttaaattt cttcttttt ttcttttta 960  
ctttcttatt tttctattt ttttttata tatctaattc atttataaca tctggtc 1017

<210>7

<211>218

<212>DNA

<213>Candida maltosa

<220>

<223>terminater ALK1t

<400>7

atagatggat tttcttttt tatgtgtatt tccgggtaat aaatgtttaa atttttttt 60  
taataaaaat attttagtt atttatatgc aaaaaaaaaa aatattcaaa gcaatcttcc 120  
tttctttctt tatctttccc ccattgtaag gtctaaaaca ccacaactta aaacccaact 180  
taaccgtata atactaagat caatctccaa agatgcat 218

<210> 8

<211> 32

<212> DNA

<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; primer

&lt;400&gt; 8

gctctagact gcagcggcga gaccggttct gg

32

&lt;210&gt; 9

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; primer

&lt;400&gt; 9

ggacacatat gcgtccagta ttgtaaaata cgagc

35

&lt;210&gt; 10

&lt;211&gt; 33

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; primer

&lt;400&gt; 10

tccccgcggc tgcagcggcg agaccggttc tgg

33

&lt;210&gt; 11



9/1 7

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 11

ggacacatat gagccaacca tcttatggcc c

31

<210> 12

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 12

cccagatcgt ccagattggt ctgcag

26

<210> 13

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

10/1 7

<400> 13

ggacacatat gagcgacaa tccctggaag t

31

<210> 14

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 14

ggggtacctt aaggcagctt gaccacggc

29

<210>15

<211>46

<212>DNA

<213>Artificial Sequence

<220>

<223>primer

<400>15

tttttcagct ggagctcgtc gacatgcatg aacaggattt aatccc

46

<210>16

<211>39

<212>DNA

<213>Artificial Sequence

<220>

<223>primer

<400>16

ccggaattcc atatgcagat gttataaatg aattagata

39

<210>17

<211>32

<212>DNA

<213>Artificial Sequence

<220>

<223>primer

<400>17

cggaagctta tagatggatt tttctttttt at

32

<210>18

<211>45

<212>DNA

<213>Artificial Sequence

<220>

<223>primer

<400>18

ttttgatatc gagctcgtcg acatgcatct ttggagattg atctt

45

&lt;210&gt; 19

&lt;211&gt; 5804

&lt;212&gt; DNA

&lt;213&gt; E.coli, Yarrowia lipolytica

&lt;220&gt;

&lt;223&gt; .plasmid pSUT5

&lt;400&gt; 19

```

aggccattct cgttactgcc aaaacaccac ggtaatcggc cagacaccat ggacgagtat   60
ctgtctgact cgtcattgcc gcctttggag tacgactcca actatgagtg tgcttgatc   120
actttgacga tacattcttc gttggaggct gtgggtctga cagctgcgtt ttcggcgcgg   180
ttggccgaca acaatatcag ctgcaacgtc attgctggct ttcacatga tcacatttt   240
gtcggcaaag gcgacgcccc gagagccatt gacgttcttt ctaatttga ccatagccg   300
tatagtccag tctatctata agttcaacta actcgtaact attaccataa catatacttc   360
actgccccag ataaggttcc gataaaaagt tctgcagact aaatttattt cagtctcttc   420
ttcaccacca aaatgccctc ctacgaagct cgagctaacg tccacaagtc cgcctttgcc   480
gctcgagtgc tcaagctcgt ggcagccaag aaaaccaacc tgtgtgcttc tctggatgtt   540
accaccacca aggagctcat tgagcttgcc gataaggctg gaccttatgt gtgcatgac   600
aagacccata tcgacatcat tgacgacttc acctacgccg gcaactgtct cccctcaag   660
gaacttgctc ttaagcacgg ttcttctctg ttcgaggaca gaaagttcgc agatattggc   720
aacactgtca agcaccagta caagaacggt gtctaccgaa tcgccgagtg gtccgatatc   780
accaacgccc acggtgtacc cggaaccgga atcattgctg gcctgcgagc tggtgccgag   840
gaaactgtct ctgaacagaa gaaggaggac gtctctgact acgagaactc ccagtacaag   900
gagttcttgg tccccctccc caacgagaag ctggccagag gtctgtctcat gctggccgag   960
ctgtcttgca agggctctct ggccactggc gagtactcca agcagaccat tgagcttgcc  1020
cgatccgacc ccgagtttgt gggttgcttc attgccaga accgacctaa gggcgactct  1080
gaggactggc ttattctgac ccccgggggtg ggtcttgacg acaagggaga cgctctcgga  1140

```

cagcagtacc gaactgttga ggatgtcatg tctaccggaa cggatatcat aattgtcggc 1200  
 cgaggtctgt acggccagaa ccgagatcct attgaggagg ccaagcgata ccagaaggct 1260  
 ggctgggagg cttaccagaa gattaactgt tagaggtag actatggata tgtcatttaa 1320  
 ctgtgtatat agagagcgtg caagtatgga gcgcttggtc agcttgtag atggtcagac 1380  
 gacctgtctg atcgagtatg tatgatactg cacaacctgt gtatccgcat gatctgtcca 1440  
 atggggcatg ttgttgtgtt tctcgatacg gagatgctgg gtacaagtag ctaatacgat 1500  
 tgaactactt atacttatat gaggcttgaa gaaagctgac ttgtgtatga cttattctca 1560  
 actacatccc cagtcacaat accaccactg cactaccact acacaaaaac catgatcaaa 1620  
 ccacccatgg acttcttgga ggcagaagaa cttgttatgg aaaagctcaa gagagagaag 1680  
 ccaagatact atcaagacat gtgtcgcaac ttcaaggagg accaagctct gtacaccgag 1740  
 aaacaggcta gctcgtcgtg ttcaggaact gttcgatggg tcggagagag tcgccgccca 1800  
 gaacatacgc gcaccgatgt cagcagacag ccttattaca agtatattca agcaagtata 1860  
 tccgtagggt gcgggtgatt tggatctaag gttcgtactc aacactcacg agcagcttgc 1920  
 ctatgttaca tccttttacc agacataaca taattggagt ttacttacac acggggtgta 1980  
 cctgtatgag caccacctac aattgtagca ctggtacttg tacaagaat ttattcgtac 2040  
 gaatcacagg gacggccgcc ctcaccgaac cagcgaatac ctcagcggtc ccctgcagtg 2100  
 actcaacaaa gcgatatgaa catcttgca tggatcctg ctgatagttt ttactgtaca 2160  
 aacacctgtg tagctccttc tagcattttt aagtattca cacctcaagg ggagggataa 2220  
 attaaataaa ttccaaaagc gaagatcgag aaactaaatt aaaattccaa aaacgaagtt 2280  
 ggaacacaac ccccgaaaa aaaacaaca aaaaaaac caacaaaata aaaaaaaca 2340  
 aaataaatat ataactacca gtatctgact aaaagttcaa atactcgtac ttacaacaaa 2400  
 tagaaatgag ccggccaaaa ttctgcagaa aaaaatttca aacaagtact ggtataatta 2460  
 aattaaaaaa cacatcaaag tatcataacg ttagttattt tttttattt aataaaagaa 2520  
 aacaacaaga tgggctcaaa actttcaact tatacgatac ataccaaata acaatttagt 2580  
 atttatctaa gtgcttttcg tagataatgg aatacaaatg gatatccaga gtatacat 2640  
 ggatagtata cactgacacg acaattctgt atctctttat gttaactact gtgaggcatt 2700  
 aaatagagct tgatatataa aatgttacat ttcacagtct gaacttttgc agattacct 2760  
 atttggtgag atattaatta tgaactgaaa gttgatggca tccctaaatt tgatgaaaga 2820  
 tgaaattgta aatgaggtgg taaaagagct acagtcgttt tgttttgaga taccatcatc 2880

tctaacgaaa tatctattaa aaatctcagt gtgatcatga gtcattgccca tcttggaana	2940
tgatcatatg gctgatattt ctaactgttt acttgagata aatatatatt tacaagaact	3000
tcccttgaaa ttaatttaga tataaaatgt ttgcgggcaa gttactacga ggaataaatt	3060
atatctgttg actagaagtt atgaacattc agtatatatg cacatataat aaccaacttc	3120
ggccctttcg tctcgcgctt ttcggtgatg acggtgaaaa cctctgacac atgcagctcc	3180
cggagacggt cacagcttgt ctgtaagcgg atgccgggag cagacaagcc cgtcagggcg	3240
cgtcagcggg tgttgccggg tgcggggct ggcttaacta tgcggcatca gagcagattg	3300
tactgagagt gcaccatacg cgcgctatag ggcaatttg agtccaccg cgtggcggc	3360
cgtctagaa ctagtggatc ccccgggctg caggaattcg atatcaagct tatcgatacc	3420
gtcgacctcg agggggggcc cggtaaccag ctttgtccc tgcgctat gcggtgtgaa	3480
ataccgaca gatgcgtaag gagaaaatac cgcacagcg gctgcattaa tgaatcgcc	3540
aacgcgcggg gagaggcggg ttgcgtattg ggcgctctc ctaggcaatt aacagatagt	3600
ttgccggtga taattctctt aacctccac actccttga cataacgatt tatgtaacga	3660
aactgaaatt tgaccagata ttgttgtaa tagaaaatct ggcttgtagg tggcaaatc	3720
cgtctttgt tcatcaattc cctctgtgac tactcgcat cctttatgt tgcactgtc	3780
tatttctat ttccataca tatgcaagt agatgccgt gtcctctcg ctactgact	3840
cgtcgcctc ggctgttcgg ctgcggcgag cggatcagc tactcaaag gcgtaatac	3900
ggttatccac agaatacagg gataacgcag gaaagaacat gtgagcaaaa ggccagcaaa	3960
aggccaggaa ccgtaaaaag gccgcgttgc tggcggtttt ccataggctc cgtccctg	4020
acgagcatca caaaaatcga cgctcaagtc agagggtggcg aaacccgaca ggactataaa	4080
gataccagcg gtttccccct ggaagctccc tctgctcctc tctgttccg acctgccc	4140
ttaccgata cctgtccgcc ttctccctt cgggaagcgt ggcgctttct caatgctcac	4200
gctgtaggta tctcagttcg gtgtaggtcg ttcgctcaa gctgggctgt gtgcacgaac	4260
ccccgttca gccgaccgc tgcgccttat ccggttaacta tctgttgag tccaaccgg	4320
taagacacga cttatcgcca ctggcagcag cactggtaa caggattagc agagcgaggt	4380
atgtaggcgg tctacagag ttctgaagt ggtggcctaa ctacggctac actagaagga	4440
cagtatttg tatctgcgt ctgctgaagc cagttacctt cggaaaaaga gttgtagct	4500
cttgatccgg caaacaacc accgctggta gcggtggtt tttgtttgc aagcagcaga	4560
ttacgcgcag aaaaaagga tctcaagaag atcctttgat ctttctacg ggtctgacg	4620

ctcaagtggaa cgaaaactca cgtaaaggga ttttggtcat gagattatca aaaaggatct 4680  
 tcacctagat ccttttaaat taaaaatgaa gttttaaatc aatctaaagt atatatgagt 4740  
 aaacttggtc tgacagttac caatgcttaa tcagtggaggc acctatctca gcgatctgtc 4800  
 tatttcgttc atccatagtt gcctgactcc ccgtcgtgta gataactacg atacgggagg 4860  
 gcttaccatc tggccccagt gctgcaatga taccgcgaga cccacgctca ccggctccag 4920  
 atttatcagc aataaaccag ccagccggaa gggccgagcg cagaagtggc cctgcaactt 4980  
 tatccgcctc catccagtct attaattgtt gccgggaagc tagagtaagt agttcgccag 5040  
 ttaatagttt gcgcaacgtt gttgccattg ctacaggcat cgtgggtgca cgctcgtcgt 5100  
 ttggtatggc ttattcagc tccggttccc aacgatcaag gcgagttaca tgatcccca 5160  
 tgttgtgcaa aaaagcgggt agctccttcg gtcctccgat cgttgtcaga agtaagtgg 5220  
 ccgcagtgtt atcactcatg gttatggcag cactgcataa ttctcttact gtcatgccat 5280  
 ccgtaagatg cttttctgtg actggtgagt actcaaccaa gtcattctga gaatagtgt 5340  
 tgcggcgacc gagggtctt tgcccggcgt caatacggga taataccgcg ccacatagca 5400  
 gaactttaa agtgctcatc attggaaaac gttcttcggg gcgaaaactc tcaaggatct 5460  
 taccgctgtt gagatccagt tcgatgtaac ccactcgtgc acccaactga tcttcagcat 5520  
 cttttacttt caccagcgtt tctgggtgag caaaaacagg aaggcaaaat gccgcaaaaa 5580  
 agggaataag ggcgacacgg aaatgttgaa tactcatact cttcctttt caatattatt 5640  
 gaagcattta tcagggttat tgtctcatga gcggatacat atttgaatgt atttagaaaa 5700  
 ataaacaaat aggggttccg cgcacatttc cccgaaaagt gccacctgac gtctaagaaa 5760  
 ccattattat catgacatta acctataaaa ataggcgtat cagc 5804

<210> 20

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> linker DNA

&lt;400&gt; 20

tactctagag

10

&lt;210&gt;21

&lt;211&gt;1820

&lt;212&gt;DNA

&lt;213&gt;Candida maltosa

&lt;220&gt;

&lt;221&gt;CDS

&lt;222&gt;538..1413

&lt;223&gt;Ade1

&lt;400&gt;21

gatcccttc ttcaaacctt taaatgacat tgtttcggtt ctctatgtt ggtatcggt 60  
cttctcttc ttcaaaaaa aggggggcac tattcaaaaa aaaatattat aacagtatga 120  
ttttttccc tctccgctg attgaggtt tttttctc ttctgtctg gtcttttgc 180  
tttcaactca aaaatggaaa cacgcgcggc tcaactcgaa atccgtgatc aaaaaataa 240  
aggctgtgag ttctgagcca ataattatga attagtggta tttttttaa agataaataa 300  
tcaagaatcg cattagggag acgaatatgc gttattcaaa taaaagaca attcttttag 360  
ggtagcattt ccttcaagt tcatccaca tgtacattaa tgtcaatgat gtcgcagaag 420  
ttaaattagc agaagaaaaa aaaaatgtga attactccga gtcaactctt ctttctctc 480  
ttcttttct tctttatcac cataatcacc accaccacca ccaccaccag ctccagatg 540  
acttcaacta acttagaagg aactttccca ttgattgcc aaggtaaagt cagagatatt 600  
taccaagttg acgacaacac tctttattc gttgctactg atagaatttc cgcatacgat 660  
gtgattatgt ctaatggat cccaaataaa ggtaaaatct taaccaaatt gtctgaattc 720  
tggtttgatt tcttgccaat tgaaaacat ttaatcaaag gagacatttt ccaaaaatat 780  
cctcaactag aaccatatag aaaccaattg gaaggcagat ccttacttgt tagaaaattg 840  
aaattgatcc ctctgaagt tattgttaga ggttacatca ccggttccgg ctggaaagaa 900



960  
1920  
1080

1820